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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,872	09/30/2003	Jimmie Earl DeWitt JR.	AUS920030487US1	6779

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EXAMINER

VO, TED T

ART UNIT	PAPER NUMBER
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2191

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,872

Applicant(s)

DEWITT ET AL.

Examiner

Ted T. Vo

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-25 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/26/06, 6/5/06, 6/23/06, 6/26/06, 8/27/06, 8/27/06, 10/06/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the amendment filed on 09/05/2006.

Claims 1-25 are pending in the application.

Response to Arguments

2. Applicants arguments to the rejections have been considered:

With regards to argument to the rejection of Claims 24-25 under 35 USC 101, in general, a computer readable medium is often directed to a physical "thing" such as computer storage like Floppy Disk that can be tangible in a computer. However, the specification includes the medium which is not concrete and tangible such as digital and analog communication links, wireless communications links, radio frequency, light wave transmissions, etc., These types of medium are non-statutory and rejected under 35 U.S.C. 101. There is a way to cause the claim statutory if the medium as claimed excludes the non-statutory media; i.e., to cancel the media as listed above in the specification.

With regards to arguments to claims 1-25 rejected under 35 USC 102, Applicants merely argued the reference does not disclose every limitations they claim. For example, they argued

Applicants respectfully submit that Merten does not identically show every element of the claimed invention arranged as they are in the claims; and, accordingly, does not anticipate the claims. With respect to claim 1, in particular, Applicants respectfully submit that Merten does not teach or suggest any of the claimed steps of "identifying an instruction for execution", "determining whether the instruction is within a contiguous range of instructions", or "generating execution information relating to the instruction if the instruction is within the contiguous range of instructions".

Examiner disagrees: Merten teaches, knows, and discloses, every broad limitation in the claim. In fact, the claim, on one hand, attempts to cover an abstract idea or definition of a concept, where the claimed languages merely can be perceived by eyeing; on the other hand, the argument requires an exact term as the language in the claims. For example, Applicants argued, Merten does not teach or

Art Unit: 2191

suggest the claims (OR statement) "identifying an instruction for execution". How can a skill in the art like Merten cannot teach or disclose a simple step! In fact, a microprocessor teaches this step.

Merten discloses, "identifying an instruction for execution", that is the program that is being profiled. Merten discloses "determining whether the instruction is within a contiguous range of instructions", and "generating execution information relating to the instruction if the instruction is within the contiguous range of instructions": It should be noted that all skills in the art know that if saying one block of instructions, it means that,

1: Instruction1,
.....
n: Instructionn.

The set of code shown above is a contiguous range of instructions. If picking an instruction, for example m: Instructionm, where $1 \leq m \leq n$ and m,n are integers, then it is an act of determining. The question is where is the novel in the claim? Can a manual act achieve the limitations in the claim?

In re Venner, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958) (Appellant argued that claims to a permanent mold casting apparatus for molding trunk pistons were allowable over the prior art because the claimed invention combined "old permanent-mold structures together with a timer and solenoid which automatically actuates the known pressure valve system to release the inner core after a predetermined time has elapsed." The court held that broadly providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art.).

Furthermore, Applicants when amending the claim fail to point out the patentable novelty of the claim. See MPEP 714.04.

Furthermore, Merten teaches, knows and discloses the generation of the execution information if the instruction in the range. For example, with the given block of code as above, Merten discloses the identification of hotspot instructions in the block, such as a branch, and profiling.

Examiner reviewed Applicants' argument to Claim 8, particularly, Applicants' changing the limitation of claim with "identifying an access to data in a memory location". However, it should be noted that the functionality in the claims 8 is simply corresponding to the "identifying an instruction for

Art Unit: 2191

execution". Given a block of code for profiling as in the reference reads into the functionality of the claimed language.

Since the Applicants' claims are broad, the teaching of Merten reads the claims.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. The claims 24-25 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 24-25: A claim is statutory if it meets practical, concrete, and tangible result.

Claims 24-25 fail to meet such a requirement.

Analysis: Claims 24-25 have been identified as providing no result as addressed in the section 3 of this issue, the claims, as a whole, recite a computer program product in a computer readable medium, where in the specification, the medium included a transmission-type media such digital and analog communication links, wireless communications links, radio frequency, light wave transmissions, etc., are non-statutory subject matters and rejected under 35 U.S.C. 101.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly v. Morse, 56 U.S. (15 How.) 62, 112-14 (1853). However, a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature. See O'Reilly, 56 U.S. at 114-19; In re Breslow, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2191

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Merten et al., "A Hardware-Driven Profiling Scheme for Identifying Program Hot Spot to support Runtime Optimization.

Given the broadest reasonable interpretation of followed claims in light of the specification.

As per Claim 1: Merten discloses,

A method in a data processing system for monitoring execution of instructions, the method comprising: identifying an instruction for execution; determining whether the instruction is within a contiguous range of instructions (In run-time of a program, Merten depicts a code block: See left col., p.137:2-18; depicts a code region: See left col., sec. 2, p. 138: These read limitation, "contiguous range of instructions". For execution, when the execution falls in the determined code region, it is known that every executed instruction in the region is within, and this is the purpose in which Merten runs the code for monitoring and identifying hotspots); and generating execution information relating to the instruction if the instruction is within the contiguous range of instructions (Merten uses profiling to generate execution information, and to particularly identify the executions of branches within that code region: See sec. 2.1.1, p. 139) .

As per Claim 2: Merten discloses, *the generating step comprises: counting each event associated with execution of the instruction if the instruction is within the contiguous range of instructions (See sec. 2.1.1, each branch execution in the determined code region is counted).*

As per Claim 3: Merten discloses, *The method of claim 2, wherein the counting step comprises: sending a signal from an instruction cache to a performance monitor unit (See sec. 2.1.1, e.g. BTB/I-cache); and the performance counter unit tracking the counting of each event associated with an execution of the instruction if the instruction is within the contiguous range of instructions (See sec. 2.1.1, e.g. "branch execution count").*

Art Unit: 2191

As per Claim 4: Merten discloses, *The method of claim 1 further comprising: determining whether the instruction is within a second contiguous range of instructions; and generating the execution information relating to the instruction if the instruction is within the second contiguous range of instructions* (See sec. 2.1.1, e.g., monitor a short interval of a branch/candidate branch).

As per Claim 5: Merten discloses, *The method of claim 1, wherein the execution information includes at least one of a number of visits to the range of instructions and a number of times the instruction has been executed* (Refer to "profiling" and the value given by counter, performed by the BBB in section 2.1.1).

As per Claim 6: Merten discloses, *The method of claim 1, wherein the determining step comprises: comparing an address of the instruction to set of addresses in a set of registers in a processor to determine whether the instruction is in the contiguous range of instructions.*, because every branch in the code region is recorded in the Branch Behavior Buffer.

As per Claim 7: Merten discloses, *The method of claim 6 further comprising: setting the set of registers using a performance tool.*, because the BBB has means of a set of registers, and each address location stored in the buffer is set by hardware scheme (performance tool).

As per Claims 8-14: Merten discloses Claims 8-14. See rationale addressed in Claims 1-7 above.

As per Claims 15-21: Merten discloses Claims 15-21. See rationale addressed in Claims 1-7 above.

As per Claims 22-23: Merten discloses Claims 22-23. See rationale addressed in Claims 1-2 above.

As per Claim 24: Merten discloses Claim 24. See rationale addressed in Claim 1 above.

As per Claim 25: Merten discloses Claim 25. See rationale addressed in Claim 1 above.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

Art Unit: 2191

shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

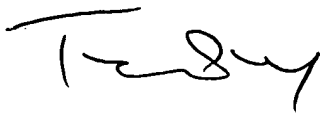
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708.

The facsimile number for the organization where this application or proceeding is assigned is the Central Facsimile number **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTV
October 27, 2006


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PRIMARY EXAMINER
TECHNOLOGY CENTER 2100